

COUNTRY REPORT OF VIETNAM

**At the 2003 FNCA Workshop on Human Resources
Development in the Nuclear Field**

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by

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I. Recent Topics in the Nuclear Field and Related Human Resources Development

1. The VAEC has finished the Draft Strategy of Atomic Energy Development in Vietnam up to 2030 and the study and elucidation of the aspects related to the nuclear power development in Vietnam. The main contents of the Draft are to propose the Government to implement a program on construction of nuclear power plants in Vietnam, so that the first one would start operation during the period 2017 - 2020. The Draft is under review by the Ministry of Science and Technology before submission to the Government.

2. Among the above-mentioned seven aspects to be elucidated, human resources development is most important one.

At present, we have estimated manpower requirements for implementation of project, management and operation of about 1,000 MW NPP, as well as for regulatory body.

The following issues have been carried out: manpower training plan, assignment of responsibilities of the related organizations and promotion of policy on manpower preparation for nuclear power program in Vietnam.

II. Support on the Development of Nuclear Technology Training

1. The equipment, textbooks and documents aided by JAERI/NuTEC have been using for conducting the VAEC-JAERI Joint Training Courses on Radiation Protection. Every year, two two-week training courses on Radiation Protection, each with about 40 trainees have been organized.

2. With the assistance from India, Training Center at Da Lat Nuclear Research Institute is operating with the main task of training Vietnamese researchers in the field of nuclear engineering.

3. VAEC is developing a teaching method by using multimedia with the materials supplied by the IAEA. A three-week National Basic Professional Training Course on Nuclear Safety with 20 trainees to be held on December 2003 will use this method.

III. Summary of “Survey of the Basic Data on Human Recourses Development”

1. Survey of the Academic Association and Society in the Nuclear Field :

Academic Association and Society	Established Year	The number of member					The number of supporting member	Total
		Regular member	Student member	Honorary member	Other	Sub Total		
Nuclear Association under the Vietnam Associate of Physics	February 02 , 2003	130						130

2. Present Status of the Survey Data

- At present, the total VAEC staff is 655 people. In comparison with 2002, 68 people were recruited. The new staff is composed of 26 young contracted researchers and 42 people from the Technology Application and Development Company, which belonged to MOST before.

- The surveys on the current status on universities, lecturers and students have been conducted more exactly and carefully.

- Statistics on training courses have been done more details, in which 5 training courses on radiation protection were held in 2003.

- Up to August 2003, 628 licensees were issued, meanwhile there were only 406 licensees by September 2002.

- Collection of data on the item A-3-1 "The number of Institutions and Scientists in Agricultural Applications" and another items has not been completed yet. FNCA requirements will be met as soon as possible.

3. Ways of using the survey data :

- The survey data have been useful for formulation of a plan on manpower development in the Strategy on Atomic Energy Development. Especially, they serve to preparation of manpower for construction of the first NPP in Vietnam.

- They also are helpful for VAEC in co-operation with universities to make a plan on personnel training for atomic energy field.

IV. Human Resources Development Strategy

1. The analysis based on survey data and analysis showed that during the past years, nuclear manpower was mainly supplied from domestic universities. In the future, they are still main resource. Therefore, among four universities in Vietnam, which have nuclear physic faculties, the VAEC have signed agreements on co-operation for training nuclear physicists, such as Hanoi Natural Science University, Hanoi Technology University, Ho Chi Minh City Natural Science University and Dalat University. VAEC opens its laboratories for lecturers and students from universities, award scholarships to the excellent students of Nuclear Physics and Engineering Faculty in Hanoi Natural Science University in order to encourage students to study nuclear physics and nuclear engineering; gives priority in the recruitment of the excellent graduate students. Besides, high qualified scientists of the VAEC have been participating in teaching these universities.

The co-operation with universities has achieved good results. This is one of effective ways to rejuvenate VAEC staff.

2. Through mass media, the Exhibitions on Peaceful Uses of Atomic Energy held in Hanoi,

Ho Chi Minh City, Ninh Thuan and Phu Yen provinces, the public and students were provided with better understanding of atomic energy. Many students showed their aspiration to study in nuclear physics and expected to work for the VAEC.

V. Others

1. Co-operation under the MEXT Scientist Exchange Program

During the past four years (1999-2002), 48 Vietnamese scientists were dispatched to Japan to study under this program. After return to Vietnam, they have brought the obtained knowledge into their scientific works. Among them, some people have become key persons or leaders of the VAEC. In addition, 21 Japanese experts and specialists visited Vietnam to help VAEC to carry out scientific researches, which results contributed to the development of some fields.

VAEC wishes that in the forthcoming years, Japan maintains and develops the MEXT Scientist Exchange Program to help Vietnam in training leading scientists in the fields of radiation technology, nuclear analysis and reactor technology...

2. International Training Courses (ITCs)

At present, VAEC nominates its scientists to participate in the ITCs in the two ways as follows:

- Participate in the ITCs organized abroad by the IAEA, RCA, FNCA or foreign institutions under the bilateral cooperation.

- Participate in the ITCs hosted by Vietnam.

During recent years, the number of ITCs hosted by Vietnam have been increasing and more effective because it enabled more Vietnamese scientists be able to participate in the training courses. Especially, during the last two years, there were four VAEC/INST - JAERI/NuTEC joint training courses on radiation protection held in Vietnam with 80 Vietnamese participants. In addition, Japan has organized special courses for training Vietnamese instructors in the related fields with the aim that Vietnam would be able to manage the training courses in radiation protection based on the JAERI textbooks and do practices in the equipment supplied by the JAERI. VAEC highly appreciates the JAERI/NuTEC assistance and support in this field.

3. University Education (Master's degree, Doctor's degree)

From 1999, the Government permitted the VAEC to train Doctor's degree in the majors of nuclear physics, theoretical physics, and mathematical physics. Since 2003, VAEC has assigned to train Doctor's degree in the additional three majors, such as inorganic chemistry, analytical chemistry, and radioactive chemistry.

At present, VAEC has 16 postgraduates making doctoral dissertation at VAEC and another 7 postgraduates at the other institutions. In 2003, there were two postgraduates who have defended doctoral thesis successfully.

Because VAEC does not have function for Master's degree training , therefore VAEC sent 25 personnel to master courses at home and foreign Universities.

Under the bilateral co-operation between Vietnam and Japan in master and doctor training, the Tokyo Institute of Technology supported to train 2 masters and 2 doctors from Vietnam each year, but, unfortunately, so far VAEC has not dispatched yet Vietnamese trainees.

In conclusion, Vietnam has attached special importance to international cooperation on human resource training in its Strategy of Atomic Energy Development. We welcome the progress being made in the implementation of nuclear cooperative activities under the FNCA framework and would like to reaffirm its full support for the FNCA. For its part, Vietnam continues participating actively in regional nuclear cooperative activities with the aim of safer, more effective and efficient utilization of nuclear science and technology in actual service of sustainable development of the country as well as within our region.

Thank you very much for your attention.